

REMARKS

Further and favorable reconsideration is respectfully requested in view of the foregoing amendments and the following remarks.

Claims 1-20 are pending in this application. By this Amendment, claims 1, 5, 7, 11, 12, 16 and 19 are amended, and claims 2, 17, 18 and 20 are cancelled.

Claim 1 is amended to incorporate the subject matter of claim 2, the result of which claim 2 has been cancelled. Claim 1 is also amended to recite the composition is obtained by copolymerizing only a polyvinyl alcohol having an average polymerization degree of 200 to 900. Support for this amendment can be found at page 13, lines 12-18 of the substitute specification.

Claims 5, 7, 11, 12 and 19 are amended to better conform to U.S. practice, and for clarity.

Support for amended claim 16 can be found, for example, at page 9, line 24 to page 10, line 13, and page 16, lines 6-9 of the substitute specification.

No new matter is added.

I. Information Disclosure Statement

Applicants submitted an Information Disclosure Statement on December 16, 2008.

Applicants respectfully request express consideration of the reference cited on the PTO-1449.

II. Claim Rejection Under 35 U.S.C. § 112

The Examiner rejects claims 11 and 12 under 35 U.S.C. § 112, second paragraph, as being indefinite. Applicants respectfully traverse the rejection. However, in order to advance prosecution, by this Amendment, claims 11 and 12 have been amended to more clearly recite the claimed invention. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

III. Claim Rejections Under 35 U.S.C. § 102

A. Hoshi

The Examiner rejects claims 1-15 under 35 U.S.C. § 102(a) as being anticipated by Hoshi et al. (U.S. Patent Application Publication No. 2003/0166763) (“Hoshi”). By this Amendment, claim 2 is cancelled, rendering its rejection moot. As for the remaining claims, Applicants respectfully traverse the rejection.

Hoshi teaches in Synthesis Example 4 a copolymer of (1) the mixture of (i) a polyvinyl alcohol (“PVA”) having a degree of polymerization of 500, and (ii) a PVA having a degree of polymerization of 1700 with (2) acrylic acid and methyl methacrylate. See Hoshi at paragraph [0059] and Table 4.

On the other hand, the copolymer defined in claim 1 is obtained from (1) only a polyvinyl alcohol having an average polymerization degree of 200 to 900, and (2) at least one or more polymerizable vinyl monomer(s).

Thus, in the claimed invention, only a polyvinyl alcohol having an average polymerization degree of 200 to 900 is used to prepare the copolymer, but in Hoshi two kinds of polyvinyl alcohols are used in the copolymer. Thus, the resin composition containing the copolymer of claim 1 is different from that of Hoshi.

Further, in Synthesis Examples 1 to 3 of Hoshi, PVA-SH is used to prepare the copolymer, but PVA-SH is structurally different from the PVA that is used in the claimed invention.

In addition, the coating agent comprising the resin composition containing the copolymer defined in claim 1 (claim 13) is not described in Hoshi.

Accordingly, Hoshi does not disclose each and every feature of claim 1, and thus does not anticipate claim 1. Claims 3-15 depend directly or indirectly from claim 1, and thus also are not anticipated by Hoshi. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

B. Hoshi in view of Saliba

The Examiner rejects claim 16 under 35 U.S.C. § 102(a) as being anticipated by Hoshi as applied to claim 1 and in further view of evidence of Saliba et al. (U.S. Patent Application Publication No. 2003/0059649) (“Saliba”). Applicants respectfully traverse the rejection.

As discussed above, Hoshi does not anticipate claim 1. Claim 16 depends from claim 1, and thus is also not anticipated by Hoshi.

Moreover, Saliba describes in paragraph [0043] that “Any binder customarily employed in coatings for magnetic tape can be used.” Specific examples disclosed in paragraph [0043] include copolymers comprising acrylic acid, methacrylic acid or esters thereof, and polyvinyl alcohol copolymers.

However, Saliba does not teach a resin composition wherein the composition is obtained by copolymerizing only a polyvinyl alcohol having an average polymerization degree of 200 to 900 and at least one or more polymerizable vinyl monomer(s), as recited in claim 1.

Further, the copolymer of Saliba is used as a binder for smooth magnetic tape and inorganic particles, but the binder of the claimed invention is used to bind powder in order to prepare tablets or granules. Thus, the purpose of the binder in the claimed invention is quite different from that of Saliba.

Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

C. Saiden

The Examiner rejects claims 1-14 under 35 U.S.C. § 102(b) as being anticipated by Saiden Chemical Industry Company, Ltd. (JP 2002-105383) ("Saiden"). By this Amendment, claim 2 is cancelled, rendering its rejection moot. As for the remaining claims, Applicants respectfully traverse the rejection.

Saiden teaches in Examples 1 to 3 a coating agent containing (1) a copolymer of (i) a polyvinyl alcohol (PVA) series resin having a polymerization degree of 1700 with (ii) an ester of acrylic (or methacrylic) acid, and (2) a PVA series resin having a polymerization degree of 500.

Further, Saiden teaches in Examples 4 and 5 a coating agent containing a copolymer of (1) a mixture of (i) a PVA series resin having a polymerization degree of 1700 and (ii) a PVA series resin having a polymerization degree of 500 with (2) an ester of acrylic (or methacrylic) acid.

However, Saiden does not teach a copolymer obtained from (1) only a polyvinyl alcohol having an average polymerization degree of 200 to 900, and (2) at least one or more polymerizable vinyl monomer(s), as recited in claim 1.

Further, the coating agent comprising the resin composition containing the copolymer as defined in claim 1 is not described in Saiden (claim 13).

Therefore, Saiden does not teach each and every feature of claim 1, and thus does not anticipate claim 1. Claims 3-14 depend from claim 1, and thus also are not anticipated by Saiden.

D. Saiden in view of evidence of Saliba

The Examiner rejects claim 16 under 35 U.S.C. § 102(b) as being anticipated by Saiden in further view of evidence of Saliba. Applicants respectfully traverse the rejection.

As discussed above, Saiden does not anticipate claim 1. Claim 16 depends from claim 1, and thus is also not anticipated by Saiden. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

IV. Claim Rejections Under 35 U.S.C. § 103

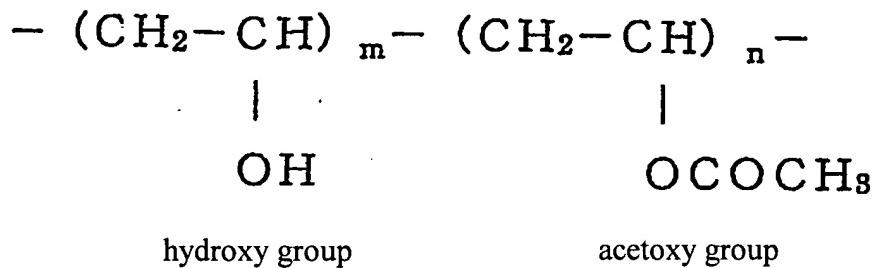
A. Saiden in view of Keith

The Examiner rejects claim 15 under 35 U.S.C. § 103(a) as being unpatentable over Saiden, as applied to claim 1, in view of Keith et al. (U.S. Patent No. 4,432,965) ("Keith"). Applicants respectfully traverse the rejection.

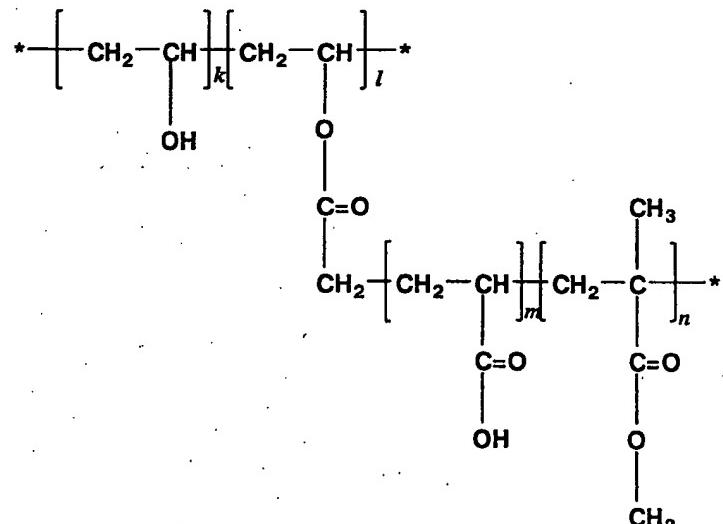
First, Saiden does not teach or suggest a copolymer obtained from (1) only a polyvinyl alcohol having an average polymerization degree of 200 to 900, (2) at least one or more polymerizable vinyl monomer(s), and (3) in a weight ratio of 6:4 to 9:1, as claimed. Therefore, claim 15 would not have been obvious over Saiden and Keith. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

Further, the resin composition comprising the PVA copolymer defined in claim 1 shows surprising and unexpected properties compared with a resin composition comprising PVA, as shown in the additional experiment and explanation below.

Structure of PVA



Structure of PVA copolymer



acrylic acid methyl methacrylate

Additional Experiment

1. Method

Formulation:

(A) Solid contents (%): 10 % relative to a whole coating solution in the solid contents,

PVA copolymer (500) or PVA (500)	70 %
Titanium oxide	20 %
Talc	10 %

(B) Colorant (%): 0.1% relative to a whole coating solution Red No. 3 pigment

aluminum lake

2. Preparation of the coating solution:

To titanium oxide and talc were added a small amount of pulverized PVA copolymer (500) or PVA (500) and one-fifth of the whole amount of water to be added, followed by stirring using a homogenizer (3000 rpm) to obtain a suspension containing titanium oxide and talc. The prescribed amount of pulverized PVA copolymer (500) or PVA (500) was gradually added to the prescribed amount of water, to prepare the solution, followed by adding (under stirring) the suspension containing titanium oxide and talc. Then, a colorant was added to obtain the coating solution for a tablet.

3. Coating of tablet:

Mixtures of 10,000 plastic tablets and 200 simulated tablets were spray-coated by using the coating solution for tablets as prepared above. As a coating machine, the HICOATER HCT-48 (Freund Corporation, Japan) was used.

Coating Conditions:

drying airflow	:	2.9 m ³ /minute
exhaust air amount	:	4.5 m ³ /minute
spray air temperature	:	65° C
pan rotation number	:	20 rpm
spray pressure	:	0.1 MPa
spray air	:	85 L/minute
heater	:	2.3 kW

4. Hygroscopic properties of the coated tablets:

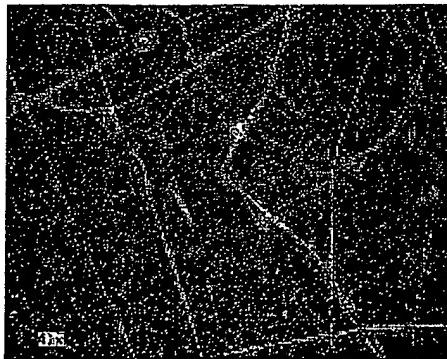
- (1) 50 tablets coated with PVA copolymer or PVA were put into a glass vial, and the glass vials were left open at 40 °C under 75% relative humidity for 24 hours. All of the tablets adhered to each other.
- (2) 10 tablets coated with PVA copolymer or PVA were put into a glass Petri dish (a laboratory dish), and were left open at 40 °C under 75% relative humidity for 24 hours. The weights of tablets were measured.

Increase (%) of the weight of tablets

The Time Elapsed (hrs)	1	2	4	8	24
Coating Material	Increase (%) of the weight of tablets				
PVA copolymer	0.43	0.66	0.66	0.66	0.66
PVA	0.56	0.83	0.83	0.83	0.86

After 6 weeks at 40 °C under 75% relative humidity, the tablets coated with PVA copolymer did not adhere to the glass Petri dish, but the tablets coated with PVA did adhere to the glass Petri dish. Thus, it is apparent from the experimental results that the tablets coated with PVA copolymer show better moisture proof effect than the tablets coated with PVA. These results are surprising and unexpected.

Furthermore, in the case where the copolymer obtained in Synthesis Examples 2 to 4 were sprayed to the tablet for coating, the tablet could not be well-coated by the copolymer and a spider's thread-like substance formed on the tablet, as shown below.



B. Claims 17 and 18

The Examiner rejects claims 17 and 18 under 35 U.S.C. § 103(a) as being unpatentable over Saiden. By this Amendment, claims 17 and 18 are cancelled, rendering the rejection moot. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

C. Claims 19 and 20

The Examiner rejects claims 19 and 20 under 35 U.S.C. § 103(a) as being unpatentable over Saiden, as applied to claims 17 and 18, and further in view of Keith. By this Amendment,

claim 20 is cancelled, rendering its rejection moot. As to claim 19, Applicants respectfully traverse the rejection.

Applicants' arguments regarding Saiden and Keith are applicable to this rejection. As discussed above, claim 1 is not anticipated by Saiden, and would not have been obvious over Saiden in view of Keith. Claim 19 depends from claim 1, and thus is not anticipated by Saiden and would not have been obvious over Saiden and Keith. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

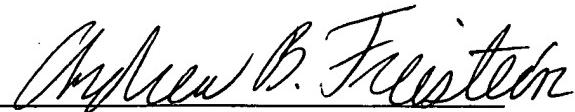
V. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1, 3-16 and 19 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place the application in better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,

Makoto NOAMI et al.

By: 
Andrew B. Freistein
Registration No. 52,917
Attorney for Applicants

WMC/ABF/vah
Washington, D.C. 20005-1503
Telephone (202) 721-8200
Facsimile (202) 721-8250
March 16, 2009

THE COMMISSIONER IS AUTHORIZED
TO CHARGE ANY DEFICIENCY IN THE
FEES FOR THIS PAPER TO DEPOSIT
ACCOUNT NO. 23-0975